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## **Product development in European mortgage markets**

*More choice, more risk*

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**W01 – Housing Finance**

## **Product development in European mortgage markets: More choice, more risk**

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**Product development in European mortgage markets:**

**More choice, more risk**

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**Abstract:**

Anecdotal and statistical evidence indicates that mortgage markets in developed countries are evolving in similar ways. Regulation has loosened and house prices have risen steadily in many countries and lenders have responded by introducing a range of new products. These include interest-only mortgages where no repayment vehicle is specified and increased mortgage terms (of up to 50 years in some cases).

Using information provided by local expert, this paper brings together the latest evidence from several countries (mostly European) about the range and type of mortgage products offered, ease of access to mortgage finance, and regulatory constraints on lending. We analyse trends over the last 10 years, and ask whether mortgage markets are generally more risky as a result of these developments.

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## Introduction

This paper gives some preliminary results from a comparative project, carried out in cooperation with the ENHR Housing Finance working group, looking at mortgage product developments in Europe. Anecdotal and statistical evidence indicates that mortgage markets in developed countries are evolving in similar ways. In many of these countries the goal of the authorities was to liberalise the mortgage market and give borrowers access to – usually – cheaper mortgages instead of more expensive, shorter-term and generally less favourable loans; another goal was to give borrowers a broader choice of mortgage products. In addition, many governments and market participants wished to promote owner-occupation. Higher house prices were the obvious result – and possibly for some an indirect goal.

At the same time lenders have made financial innovations and introduced a range of new products. These include interest-only mortgages where no repayment vehicle is specified and increased mortgage terms (of up to 50 years in some cases). These developments clearly give consumers much greater choice than they had in the days when a mortgage meant a straight annuity loan with a 25-year term and a minimum down payment of 20%. Conversely, this expanded range of choice makes much greater demands on consumers' financial acumen, and has generally increased market and credit risk (for the individual borrowers, lenders and society as a whole.)

There has been considerable interest in these developments, particularly from international economic and financial organisations. In 2005 the European Central Bank noted the quick rise in mortgage debt in most EU countries, saying that 'in line with its growing size, mortgage debt has taken up a prominent place in economic analysis and macroeconomic policy-making.' (Wolswijk, 2005)

In 2006 the Bank for International Settlements published a report noting the general rise in household indebtedness, attributing it in part to financial liberalisation and deregulation, which have allowed 'increased loan-to-value ratios, a reduction of credit restrictions (and) a wider array of loan contracts offered to borrowers... Together, these developments have made borrowing cheaper and more readily available, which has allowed new categories of households to enter the housing market.' (Committee on Global Financial Markets, 2006, p.1) They were concerned, however, that 'Households may not completely understand their mortgage contracts or how their payments could change in response to interest rate shocks or other developments. In particular, the introduction of negative amortization loans and a number of other new loan contracts has led households to assume more, and increasingly complex, risk. This is part of a broad global trend in financial markets to shift risk towards households.' (CGFM, 2006, p. 2) The BIS said most borrowers were not overstretched and could absorb both declines in house prices and higher interest rates, but noted that new forms of mortgage contract had allowed some households to take on financial commitments that would be unaffordable if there were an economic shock.

The OECD has also recently looked at the question of growing levels of household debt in OECD countries, of which mortgages are the most important component (in the OECD countries on average, just over 70% of household debt is mortgages). They noted that 'There have been... a number of supply-side innovations in credit markets that have eased the access to credit for lower-income borrowers and reduced financial constraints for first-time homebuyers.' (Girouard, Kennedy & Andre, 2007, p. 5). The authors conclude that recent developments have heightened sensitivity to economic shocks, saying 'whether the situation

remains benign or not depends on what happens to interest rates, asset values (particularly house prices) and incomes. In the event of adverse developments in these variables consumption and the wider economy would be affected.’ (Girouard et al, 2007, p.6)

While the OECD and BIS were principally concerned with assessing risks to national and global economies, this paper focuses on quantifying the market shares of some of the new product features in various countries, and assessing the importance of these developments to consumers and lenders. In this paper we describe recent mortgage-market developments in nine countries: eight European nations (Denmark, Finland, France, Greece, Ireland, Portugal, the UK and Switzerland) and, for comparison, Australia. Much of the information for the paper was provided by housing-finance experts in each country, whose help is gratefully acknowledged.<sup>1</sup>

Throughout the report the tables contain 2005 data, which was the most recent available for all countries. In the text, however, we cite more recent figures where available.

## Methodology

The target group of countries was identified as those with a high ratio of mortgage debt to GDP, or where that ratio had grown rapidly over the past ten years. A questionnaire was drawn up, covering developments in each country’s mortgage market in the last decade (a copy of the questionnaire is available on request). These questionnaires were sent to members of the ENHR Housing Finance group (or, in a few cases, other housing finance experts) in the target countries; in some cases the original recipient of the questionnaire referred it to another colleague in the academic or banking world for response. Responses were not received from all countries.

The questionnaire requested detailed data about the breakdown of new and existing mortgages, in terms of repayment model, interest-rate structure and term. In most countries not all these data were available; the UK and Denmark were the countries with the fullest data availability. Access to more detailed data would permit more in-depth analysis of these questions.

Information from the questionnaire was supplemented by published data from other sources, including Eurostat and the European Mortgage Federation. A brief literature review was also conducted.

## Background: Owner-occupation and mortgage lending

Owner-occupation rates in the countries studied ranges from a low of 37% in Switzerland (an outlier) to a high of 75.5% in Ireland (Table 1). The percentage of owner-occupiers with mortgages varies more widely, from about 31% in Portugal to 80% in Denmark. There is no firm correlation between owner-occupation rates and mortgage penetration rates-- some countries with high homeownership rates have a low mortgage penetration rate (Greece, Portugal), while others with a relatively low owner-occupation rate have high percentage of

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owner-occupiers with mortgages (Denmark). In general the northern European and Anglo-Saxon countries have a higher mortgage penetration rate than southern European ones.

**Table 1: Owner-occupation rate and % of owner-occupiers with mortgage (highest-lowest last column)**

|             | Owner-occupation rate (latest available) | % of owner-occupiers with a mortgage |
|-------------|--|--------------------------------------|
| Denmark     | 53.2*                                    | 80 (2005)                            |
| Ireland     | 75.5                                     | 62                                   |
| UK          | 70.3                                     | 58.4                                 |
| Australia   | 70                                       | 50                                   |
| Finland     | 64                                       | 44 (2004)                            |
| France      | 56.7                                     | 35                                   |
| Greece      | 74.3                                     | 33 (est)                             |
| Portugal    | 76                                       | 31.5 (2001)                          |
| Switzerland | 37                                       | Not known                            |

Source: country experts

\*not counting dwellings not in use

Across the countries studied, the ratio of residential mortgage debt to GDP has grown over the last ten years (Table 2). The rate of growth has been highest in those countries starting from a low base (Greece, Ireland). The exception is France, where the ratio remains low by European standards and is not growing rapidly.

**Table 2: Ratio of residential mortgage debt to GDP (highest-lowest 2<sup>nd</sup> column)**

|             | Ratio of mortgage debt to GDP |      | % change 1995-2005 |
|-------------|-------------------------------|------|--------------------|
|             | 1995                          | 2005 |                    |
| Denmark     | 62.9                          | 94.0 | 49                 |
| Switzerland | 65.7                          | 88.9 | 35                 |
| UK          | 53.3                          | 80.0 | 50                 |
| Ireland     | 23.5                          | 61.7 | 163                |
| Portugal    | 37.4 (1999)                   | 53.9 | 44*                |
| Finland     | 30.2                          | 42.5 | 41                 |
| Greece      | 4.0                           | 25.1 | 528                |
| France      | 19.8                          | 29.4 | 49                 |

Source: EMF Hypostat

\*Portugal % change applies to period 1999-2005

These figures suggest the importance of fiscal arrangements; it is notable that in Denmark and Switzerland, the countries with the highest ratio of debt to GDP in Table 2, the interest element of mortgage payments is fully deductible from owner-occupiers' income for tax purposes. This is also the case in the Netherlands, which had a residential mortgage debt/GDP ratio of 97.1% in 2005 (Hypostat). At the other end of the scale, Greece 'on balance imposes a tax levy on mortgage-financed housing.' (Wolswijk, 2005)

**Table 3: New residential mortgage lending, millions of Euros (alphabetical)**

|          | 1995   | 2005    | % change |
|----------|--------|---------|----------|
| Denmark  | 15,353 | 86,213  | 462%     |
| Finland  | 4,778  | 28,806  | 503%     |
| France   | 32,440 | 134,500 | 315%     |
| Greece   | n/a    | 13,609  |          |
| Ireland  | 2,284  | 21,536  | 843%     |
| Portugal | n/a    | 17,578  |          |
| UK       | 67,802 | 421,231 | 521%     |

Source: EMF Hypostat

Table 3 gives an idea of the relative sizes of the mortgage markets in the countries studied. New mortgage lending has increased most strongly in Ireland (and probably Greece, though 1995 figures were not available), and least in France.

**Table 4: Interest rates, %, 1996\* and 2005, annual averages**

|             | Short-term (3 month interbank rates) |      | Long-term (10-year government bond) |      | Typical local mortgage rate on new loans** |      |
|-------------|--------------------------------------|------|-------------------------------------|------|--|------|
|             | 1996                                 | 2005 | 1996                                | 2005 | 1996                                       | 2005 |
| Denmark     | 3.98                                 | 2.22 | 7.19                                | 3.4  | 7.9  | 4.4  |
| Finland     | 6.28                                 | 2.19 | 7.08                                | 3.35 | 5.5  | 3.0  |
| France      | 16.35                                | 2.19 | 6.31                                | 3.41 | 7.4  | 3.5  |
| Greece      | 6.58                                 | 2.19 | 14.62                               | 3.58 | 5.6  | 4.0  |
| Ireland     | 5.75                                 | 2.19 | 7.29                                | 3.33 | 7.1  | 3.7  |
| Portugal    |                                      |      | 8.56                                | 3.44 | 11.5                                       | 4.2  |
| Switzerland | 1.9                                  | 0.76 | 4.37                                | 1.93 | 4.8  | 3.1  |
| UK          | 6.11                                 | 4.76 | 7.94                                | 4.46 | 6.8  | 5.2  |

Source: Eurostat, Hypostat, Swiss National Bank, UK Council of Mortgage Lenders Table ML5

\*1996 figures were used rather than 1995 because data on mortgage interest rates were better for 1996

\*\*Denmark: Fixed rates based on 30-year callable bonds  
 Finland: Variable rate and initial fixed up to 1 year  
 France: Fixed rates, contracted loans (*prêts conventionnés*)--maturity 12-15 years  
 Greece: Reviewable rate after a fixed term of 1 year  
 Ireland: Reviewable rate (including fixed rates fixed up to one year)  
 Portugal: Variable rate and initial fixed up to 1 year  
 UK: Weighted average of building society rates on all mortgage loans

Table 4 shows that interest rates have fallen sharply in all countries since 1996—and rates for countries that joined the Euro have converged (though not completely). In most countries 10-year interest rates now are about half the level they were in 1996, though in Greece the fall was much sharper. (The various interest rates shown in Table 4 are those rates paid to investors; borrower rates would be somewhat higher.)

It is difficult to compare mortgage interest rates internationally, because mortgage types vary so much from country to country. In Finland, for example, over 90% of mortgage loans were at variable rates, while in France about 75% of new loans were at rates fixed to maturity. Nevertheless, it is clear that mortgage rates have fallen in all countries studied in the last decade, and that rates on the most common types of mortgage now fall within a relatively narrow range (3% - 5.2%).

## Recent mortgage product developments

Mortgage product development has flourished in Europe over the last decade, helped by a general relaxation of regulation and the push towards EU mortgage-market integration. However, as Mark Stephens points out, it is not correct to say that the various markets have been evolving in a parallel fashion, because they came from different starting points—some countries traditionally had long-term fixed rates; others mostly variable rates; legal and cultural norms differ, etc. (Stephens, 2003). However, it can be said that in all countries the trend is towards a wider variety of mortgage types in terms of repayment model, interest-rate structure and term—towards what one much-cited analysis calls ‘product completeness’ (Mercer Oliver Wyman, 2003).

The remainder of this paper presents information on the current state of product development in mortgage markets across Europe, with particular emphasis on three features: changing repayment structures, including the rise in interest-only mortgages; lengthening mortgage terms; and the increase in remortgaging activity

### Theory: fundamental limits to the slower repayment of debt

In most countries, the size of the house purchaser’s payments (cash flow) in the first year is a strong determinant of how much the buyer can afford to pay, and therefore the price of the house purchased and the capital gain to be expected after years of ownership.

For many politicians and governments, one goal of housing policy is to lighten the burden of housing expenditure for owner-occupiers. Lenders wish to expand their lending activities, and introducing new types of mortgages is one way to do so. And borrowers want loans with low annual payments, or what are advertised as ‘inexpensive mortgages’.

The various market participants do not generally recognise that, in accordance with economic theory, higher demand for owner-occupied houses and flats will be capitalised as higher house prices. In the short-run adjustment period this capitalising effect can be rather strong – as seen in Denmark after the introduction of interest-only mortgages (Bentzen and Lunde, 2006) – while the long-run price effect will be much lower. Neither do many borrowers realise that ‘inexpensive mortgages’ do not exist, because at market conditions the net present value of a loan is always zero, since the investors in the bonds (or other relevant claims) will demand the market rate of return.

Over the decades, many different loan types have been employed to reduce borrowers’ payments; the various methods are well known from financial calculations. In 1982 in Denmark, after high inflation in the previous decade, index-linked mortgages were introduced to avoid the front-end problem and level out real debt service over time. Another possibility – with an increasing yield curve – is to reduce the period of the initial fixed rate in interest-adjusted mortgages (Walley and Figá-Talamanca, 2006) or to introduce mortgages with fully variable interest rates. A third way is to lengthen loan terms (in Denmark, during the period after the Second World War, mortgages with 60-year terms were common). A fourth is to use interest-only mortgages. And a fifth method is mortgages with principal payments and with reduced interest rates (or interest payments) for the first couple of years (teaser loans in the USA, discounted-rate loan in the UK).



The limitation of the use of financial innovations to reduce debt service can be illustrated as follows. At the limit is the simplest financial claim of all, the zero-coupon bond/loan. This consists of a disbursement to the borrower,  $I_0$ , at time 0, and the borrower's repayment at time  $n$  of amount  $I_n$ . Through the  $n$  terms no payments of principal or interest are made by the borrower. However, the lender must receive a return (the interest rate for the mortgage,  $i_n$ ), so the unpaid interest is added to the mortgage debt. The interest rate  $i_n$  represents the internal rate of return as well as the zero-coupon interest rate.

$$I_n = I_0 \cdot (1 + i_n)^n$$

This limiting case illustrates the financial risk to the lender as well as to the borrower of lengthening the repayment of the mortgage in one of the different possible ways.

The nominal interest rate includes both the real interest rate and an inflation component to compensate for expected inflation in the relevant period (the Fisher effect). Therefore the interest rate  $i_n$  will be higher than expected inflation. In addition,  $i_n$  will increase as the loan's term lengthens due to term risk: the longer the period of the loan, the more uncertain forward interest rates are.

Conversely, the rate of return from investment in property (of all types) consists of a) the value of using the property during the period, which equals the rent obtainable from letting the property out, plus b) the expected price increase (capital gain) from the property. In principle, the long-run rise in prices for both residential and commercial properties is equal to the general inflation rate in the society. However, the strong ups and downs in property prices usually overshadow this.<sup>2</sup>

Given these fundamentals, a borrower with a zero-coupon mortgage and a high initial LTV will automatically experience negative equity after few years, as the market value of the debt has increased more than the value of the house. The borrower is technically insolvent and the lender has no security that can cover the debt in case of real insolvency. Because of this, borrowers are forced to pay some debt service through the loan term to avoid negative equity.

There is another possibility: if house-price changes followed inflationary changes perfectly, the lowest possible debt service could be achieved with an interest-only index-linked mortgage. Then the borrower would pay the real interest rate during each period, and maintain a constant LTV through the loan's term. However, this in fact would be impracticable because: a) house prices are highly volatile; b) the changes in the prices of individual houses are higher than the change in the average house price index; and c) owner-occupier could neglect necessary maintenance or even destroy parts of the property (moral hazard). Therefore LTVs for borrowers with interest-only index-linked mortgages would in fact fluctuate strongly.

This example makes clear that maintaining the security behind the mortgage, which is an advantage for both borrower and lender, requires debt-service payments that are higher than the real interest rate. In practise, the 'extra' payments are met through a) the inflation component in the nominal interest rate, which serves as payment for inflation's erosion of the real value of the debt, and b) instalments (principal payments) in ordinary annuity loans.

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<sup>2</sup> Borrowers and lenders who do not believe that in the very long run the rate of increase in property prices equals the inflation rate can adjust their expectations with the difference in the growth rates.

The fundamental limits to the reduction of debt service demonstrate why risks increase with the lengthening of loan terms, introduction of interest-only mortgages and similar alternatives.

### **Interest-only mortgages**

Interest-only loans, sometimes known ‘bullet loans’, are mortgages where the purchaser pays the interest on the loan every month, but makes no contribution to repaying the capital sum borrowed. At the end of the loan’s term, then, the borrower will owe the full sum (unless they have made partial payments in the interim). The repayments on interest-only mortgages are significantly lower than those on a traditional annuity/amortisation loan, where part of each monthly payment goes to repaying the capital sum. As the UK Council of Mortgage Lenders notes, ‘At a time of intense affordability pressures, one possible reason for taking out an interest-only loan without a formal repayment vehicle could be to reduce the burden of monthly mortgage payments. A homebuyer taking out an average size loan of £120,449 in Q3 2006, at a typical interest rate of 5.01% over 25 years, would face a monthly capital and interest payment of £713. But on an interest-only basis with no repayment vehicle, the total payments would be £515.’ (Tatch, 2006). The difference between payments on traditional annuity loans and interest-only loans is greatest when interest rates are low; the difference narrows as interest rates increase. It is therefore not surprising that interest-only mortgages were popular in 2005’s low-interest-rate environment.

In some countries, notably the UK (and the Netherlands, which is not included in the survey), interest-only mortgages have long been offered in conjunction with separate repayment vehicles. Such mortgages are popularly known as ‘endowment mortgages’ in the UK. Purchasers would thus make a monthly interest payment to the lender, as well as a separate payment into a savings plan (often stock-market based). This rather complicated system grew up as a result of the tax-favoured treatment given to some of these investment plans; in addition, during a period of strong stock-market growth there was the possibility that when the investment plan matured there would be a surplus left over after repayment of the capital sum borrowed. Conversely, however, there was also the possibility that the investments would not perform well enough to pay off the sum borrowed at the end of the mortgage term, and endowment mortgages fell dramatically from favour when stock market performance declined. The discussion that follows, insofar as it refers to the UK, relates to ‘pure’ interest-only mortgages, where there is no associated investment vehicle.

Interest-only loans are a recent introduction in some countries (Denmark 2003; France 2005). The precise meaning of interest-only differs from place to place—for example, some countries limit the interest-only period, presumably to ensure that buyers are forced to begin to repay the capital sum at some point. In Denmark, for example, the interest-only period is formally limited to ten years, although, provided the price of the house has not fallen, there is nothing to stop the buyer from remortgaging at that point and taking out another interest-only loan.<sup>3</sup> Availability also depends on the nature of default legislation in each country. For example in Germany, the lender can immediately cancel the loan if the borrower goes into negative equity, even if the borrower’s payments are up-to-date, although the facility is little used in practice. There is clearly a higher risk of negative equity with interest-only mortgages, since the borrower does not contribute with instalments to build up equity.

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<sup>3</sup> This is similar to a common type of mortgage in the USA. There, so-called ‘balloon mortgages’ have an initial interest-only period (often 5-10 years), after which the mortgage reverts to a traditional annuity loan for the remaining term.

Data on the share of interest-only loans was patchy, but in those countries for which data were available, interest-only loans make up an increasing share of the mortgage market (Table 5). In Denmark interest-only products were first allowed in 2003, and by the end of 2005 they accounted for 25.6 % of all the outstanding mortgage debt and for 31.5 % of the owner-occupiers' mortgage debt. The UK data look anomalous in that the proportion of interest-only loans has *fallen* since 1995, unlike other countries. However, the type of interest-only loan common in 1995 was the endowment mortgage (see above), which did include a mechanism for repaying the capital although it was not formally part of the mortgage. The proportion of 'pure' interest-only loans—that is, loans with no repayment vehicle—has doubled from 10 to 20% since 1995. (They have also been popular outside Europe; in South Korea such mortgages did not exist 1995, but by 2005 they made up 48% of outstanding loans. [Kyung-Hwan Kim])

**Table 5: Mortgage repayment models: new loans**

|                                    | <i>% new loans that were interest-only</i> |             |
|------------------------------------|--|-------------|
|                                    | <i>1995</i>                                | <i>2005</i> |
| Australia*                         | 0  | 30          |
| Denmark                            | 0  | 31.5        |
| Finland                            | 0  | 3           |
| UK (of which no repayment vehicle) | 62 (10)                                    | 24 (20)     |

Source: Country experts

Interest-only loans can be particularly attractive in countries where interest payments are deductible from income for tax purposes, as in the Netherlands. Jan Rouwendal points out that taking tax deductibility into account, the payments on an interest-only mortgage could be cheaper than rent for an equivalent house. Interest-only mortgages accounted for 3.4% of all Dutch mortgages in 1993, according to the Dutch Housing Needs Survey; by 2002 the figure had risen to 31.8%. Such mortgages are particularly popular among the elderly (about 60% of elderly borrowers in the Netherlands had interest-only mortgages in 2002), because they allow owner-occupiers to consume part of their housing equity without moving. (Rouwendal, 2006)

Interest-only loans can also be popular with investors in residential rental properties because they improve the cash-flow difference between the income from rent and the debt service; especially at high interest rates, interest-only mortgages can help to eliminate or reduce otherwise negative differences in the cash flow. In addition, interest payments are deductible from taxable income for landlords (even if not for owner-occupiers) in many countries. For some countries data on residential mortgage lending includes loans to both owner-occupiers and landlords, and it can be difficult to determine the relative importance of the two categories of borrower.

Interest-only mortgages offer clear short-term benefits to the consumer (as reflected by the speed at which they have increased their market share). Most important of these is the lower monthly payment required compared to annuity/amortization mortgages. They can allow more flexible repayment patterns for those borrowers who have irregular incomes; also, more sophisticated investors may feel they could achieve a better return on their money by investing it themselves than by making payments on a traditional mortgage (Tatch, 2006). (However, a higher return than the interest rate on the interest-only loan can only be achieved by accepting a higher investment risk.) Taking out an interest-only mortgage allows an elderly household to consume part of their housing equity without having to move. The capital sum

can be repaid on the sale of the house after the borrowers die or finally move (although, of course, this will reduce the amount of any bequest).

On the other hand, they give rise to several concerns. The first is whether and to what extent borrowers fully understand the implications of taking out such a mortgage, and whether they in fact have plans in place to repay the capital sum. Because interest-only mortgages are a relatively recent development, it is not yet possible to study the behaviour of a cohort of interest-only borrowers over the full life of their loans and, in particular, to study whether, how when principal repayments were made. An interesting topic for further research would be to look at evidence on these points from those countries where interest-only mortgages have been available longest.

The second possible cause for concern is that interest-only borrowers are more vulnerable to interest-rate or house-price shocks than borrowers with other mortgage types. Interest-only borrowers with variable-rate mortgages are particularly vulnerable to interest-rate shocks because any change in rates will affect the whole of their mortgage payment. With an annuity mortgage, over time a diminishing percentage of the monthly payment goes towards interest, and thus the potential effect of interest-rate shocks diminishes over the life of the loan; this is not the case with interest-only mortgages. And because interest-only borrowers may not build up equity in the course of the mortgage, they can be tipped into negative equity by house-price falls more easily than holders of traditional mortgages—again, even after many years.

#### *Research into behaviour and intentions of interest-only borrowers: England*

In 2004/05, reflecting official concern with the spread of interest-only mortgages in the UK, the Survey of English Housing included a question about how interest-only borrowers planned to pay off their mortgage. The results are shown in Table 6. A worryingly high proportion—more than one third—planned to repay the principal by selling the mortgaged dwelling; a further 5% did not know how they would repay.

**Table 6: Expected method of principal repayment, interest-only borrowers in England (2004-2005)**

| <i>Method</i>                            | <i>Percentage</i> |
|--|-------------------|
| Proceeds from sale of mortgaged dwelling | 36                |
| Savings/investments                      | 26                |
| Change to repayment mortgage             | 16                |
| Other                                    | 9                 |
| Don't know                               | 5                 |
| Sale of a different property             | 4                 |
| Expected inheritance                     | 2                 |
| Take out another interest-only mortgage  | 1                 |

Source: Survey of English Housing

The UK's Financial Services Authority commissioned more detailed research in this area, which was published in December 2006. The FSA research set out to determine who the interest-only borrowers were, how they intended to repay their loans (including how firm their intentions were), and how well they understood interest-only mortgages. A survey was conducted of 857 recent interest-only borrowers (that is, borrowers for whom banks had no record of a repayment vehicle). According to this research a rather smaller percentage of borrowers planned to sell the mortgaged house to pay off the mortgage (18%, in contrast to

the 36% found by the Survey of English Housing); rather, the concern here was that some borrowers had no plans, or only very vague plans, for paying off the principal. (FSA, 2006)

Although most borrowers had a good understanding of what an interest-only mortgage was and the risks involved, ‘a significant minority had no idea or definite plans on how they would pay back the capital they borrowed. A large proportion of these borrowers admitted that dealing with finance was best left to the experts, and many had taken an interest-only mortgage because it was recommended to them by a professional.’ (FSA, 2006, p. 2) Of those who did have a plan for paying back the mortgage ‘in a number of cases the credibility of this repayment strategy may be open to question.’ Only 22% had formal arrangements in place to repay the principal, while 65% had other plans, including selling property or switching to a repayment mortgage. Some 13% had a ‘rough idea’ or ‘no idea’ of how they would repay the loan. Such borrowers tended to be in lower social classes and more reliant on professional advisers. (FSA, 2006)

Most of the borrowers surveyed had remortgaged to an interest-only loan (52%); 29% were moving home and only 12% were first-time buyers. The main reason borrowers chose such loans was because the monthly payments were low.

## Mortgage terms

Mortgage terms are lengthening and now in many countries average 25-30 years (Table 7). As with interest-only mortgage, the chief benefit to the borrower of longer mortgage terms is lower monthly payments. On the other hand, the longer the mortgage term, the higher the interest rate (with fixed rates and a normal yield curve).

**Table 7: Typical mortgage terms**

|           | 1995   | 2005   |
|-----------|--|--|
| Australia | 25 years   | 25-30 years  |
| Denmark   | 60% 30-year bonds<br>25% 20-year bonds<br>10% 10-15 year bonds | 83% 30-year bonds<br>13% 20-year bonds<br>2% 15 years<br>2% 10 years |
| Finland   | 15 years   | 20 years   |
| Greece    | 15 years   | 25 years   |
| Ireland   |  | Average 26 years   |
| Portugal  | 25 years   | 30 years   |
| UK        | 20-25 years  | 25 years but available up to 50.                                     |

If the effective demand for owner-occupied houses depends on the cost to purchasers in the first year, then debt-service arrangements may determine house prices. If this is the case, the introduction of interest-only mortgages and the lengthening of the mortgage term involve special risks. The longer the mortgage term the slower the purchaser accumulates equity – and obviously in the case of interest-only mortgages they are not accumulating equity through instalments at all. Also, the introduction of ‘flexible’ mortgages in many markets (in which buyers can make over- and under-payments within certain parameters) complicates the picture—there is no longer a smooth curve of accumulating equity but the household’s equity level can rise and fall over time.

There is probably a natural limit to the length of mortgage terms, as the structure of annuity mortgages means that the marginal benefit (in terms of reduced payments) of an additional year declines as the term lengthens. In fact as terms lengthen, the proportion of principal in each payment falls; at the limit (an infinite term), the annuity payment is equal to the interest payment.

Borrowers' increased propensity to remortgage (see below) can also have the effect of lengthening *de facto* mortgage terms, if they do not remortgage to the term of the original loan. The increased ease of refinancing in many countries makes it likely that many, even most, consumers will not hold the same mortgage to term. In terms of equity accumulation, it is therefore important to look at the terms of subsequent mortgages—when homeowners refinance, how many do so to the same term as the original mortgage, and how many take out a new mortgage with a standard term, thus increasing the effective term of their debt?

Evidence from Denmark suggests that a significant proportion of borrowers do the latter. A 2005 survey of homeowners who refinanced found that, while the average time left on their previous loans was 22 years (out of the 30 years typical in Denmark), the average term of the new loans was 27.5 years—thus increasing the effective mortgage term by 5.5 years. (Bjerremann Jensen and Friisenbach 2006; own calculations)

### Remortgaging/equity release

Homeowners in many countries seem to manage their mortgages much more actively than they did ten years ago. Refinancing rates have soared in many countries: in the UK, 18% of new mortgages in 1995 refinanced existing loans, while the figure in 2005 was 41%; in Switzerland the respective rates were 50% and 80%; in Australia 2% and 29% (Table 7).

**Table 7: Percentage of new mortgage lending that was refinancing of existing loans**

|             | <i>1995</i> | <i>2005</i> |
|-------------|-------------|-------------|
| Australia   | 2           | 29          |
| Denmark*    | 63/62       | 73/58       |
| Finland     | 15          | 15          |
| France      | 9           | 8           |
| Greece      |             | 10          |
| Ireland     | n/a         | 14          |
| Switzerland | 50          | 80          |
| UK          | 18          | 41          |

\*Denmark: owner-occupier mortgages/all mortgages

Source: Country experts' reports

Interest rates have fallen sharply since 1995, and one of the key reasons for refinancing is to lock in lower interest rates. Refinancing is of course subject to important cycles, depending on changes in interest rates and the yield curve; the data in Table 7, which are snapshots from two years, do not capture these cycles. Nevertheless, the data do suggest that there has been a change in the market.

While there appears to be a trend across most countries towards greater levels of remortgaging, the levels vary enormously: remortgaging represented 8% of new loans in France in 2005, while in neighbouring Switzerland the figure was 80%. These differences

reflect the different national legal and regulatory frameworks in which mortgage lenders and their customers operate, and different cultural norms.

It proved difficult to find information about the average life of a loan before refinancing; estimates for this figure were available for only a few countries. In Finland it is estimated that loans are held for 5-8 years before refinancing; in Australia about 7 years; and in Switzerland 5-10 years.

Besides taking advantage of lower interest rates, owner-occupiers may refinance in order to withdraw equity. Although formal equity-release programmes do exist in some countries (notably the UK), more common methods of equity release are remortgaging for an increased amount without moving home, or taking out a second secured loan. In the UK, for example, 31% of all households with mortgages have either remortgaged for a higher amount or taken a further advance (Survey of English Housing, 2003/04). This releases funds that can be used at the owner-occupier's discretion. In an environment of falling interest rates, it may even be possible to remortgage for a higher amount, but at a lower interest rate, and pay no more in monthly payments.

#### *Use of funds from remortgaging: Evidence from UK and Denmark*

How do owner-occupiers use the funds released from remortgaging? This is a subject that is of particular interest to central banks, who are concerned to assess its effect on the wider economy. Results from surveys in England and Denmark suggest that most use the money to improve their homes, but that about a fifth goes into consumption.

Danish homeowners who remortgaged for a higher amount used the funds released to invest in their homes. According to a survey of owner-occupiers who in 2005 took out a new mortgage for more than their original mortgage, or who took out a second loan secured on their homes, 63% used the funds to invest in their homes. 20% saved or invested the money, or used it to pay other debts, while 18% spent it on consumption. (Bjerremann Jensen & Friisenbach, 2006)

This is remarkably consistent with findings from England. There, households who remortgaged for a higher amount or took out a second mortgage most often used the funds for home improvements or to buy furnishings (about 60%). About a fifth was spent on consumption (holidays, cars and other goods), while the remainder went to 'other' (presumably some of which was saving or to pay other debts—the questionnaire did not include these answers as options).

## **Conclusions/issues for further investigation**

In general, as the BIS notes, 'The enlarged menu of housing finance products has increased borrower choice.' (CGFS, 2006) Interest-only mortgages and mortgages with longer than normal terms both clearly offer lower monthly repayments than traditional mortgages. This can widen access to owner-occupation and facilitate movement up the housing ladder. However, there are also risks involved, particularly given that purchasers accumulate housing equity more slowly (or not at all).

The profusion of mortgage types also makes increased demands on consumers' financial acumen--especially since a mortgage is the largest financial product most households have. Research into the attitudes and knowledge of holders of interest-only mortgages in the UK and Denmark indicates that most borrowers do understand the nature of the contract and the risks involved. The ignorance of a minority of borrowers is, however, worrying.

As product development has gathered pace there has been a concurrent rise in the importance of financial intermediaries in the mortgage market. They perform a useful, even necessary, function in a marketplace where a customer may face a choice among literally thousands of mortgage possibilities. British research indicates that the less sophisticated consumers tended to rely most heavily on such intermediaries in taking out a mortgage. These borrowers can thus benefit from the sort of expertise they could not hope to amass personally, but it is important to ensure that the final consumer—and not just the advisor--fully understands the nature and risks of the mortgage selected.

The data presented in this paper suggest that the typical household 'mortgage career' is changing, and changing fast. Easy access to remortgaging/second loans makes it possible for the homeowner to treat the dwelling as an asset, to be managed actively like other investments. For the sophisticated borrower, and particularly for the elderly, this can be an enormous advantage. More investigation is needed into patterns of borrower behaviour by country, how these are affected by regulatory and tax structures, and what outcomes can be expected for household asset accumulation.

The development of new products has taken place during a sustained period of house price growth internationally, but some of the products that can make sense in an environment of rising prices (interest-only mortgages, for example) may present particular dangers if prices begin to fall. The next house-price cycle will be a test bed for these new mortgage types, determining whether the variety of mortgage products continues to expand, or whether there is retrenchment to a simpler spread of mortgage offers.

In terms of further research, one interesting question is whether/to what extent the lower payments possible with interest-only mortgages and longer mortgage terms are capitalised into house prices. This seems to have happened after the introduction in 2003 of interest-only mortgages in Denmark, which reduced the number of flats and houses offered for sale (Bentzen and Lunde, 2006). A 2006 report from the OECD suggested that mortgage-market developments could be 'a particularly important factor' affecting house prices (Girouard, Kennedy, van den Noord & Andre, 2006), but this effect has not been quantified.

Turning to methodology, we did not manage to collect information from all the target countries, and in pursuing this avenue of research further we would want to get a more complete data set. It would be particularly interesting to have fuller information on the Netherlands and the USA, where interest-only mortgages are increasingly common.



## References:

- Benito A and Power J (2004) 'Housing equity and consumption: insights from the Survey of English Housing' *Bank of England Quarterly Bulletin* Autumn 2004
- Bentzen, Eric and Jens Lunde (2006): "*Introduction of Interest Only Mortgages as creator of a House Price Bubble.*" Paper for the ENHR International Conference, Ljubljana, 2-5 July 2006.
- Bjerremann Jensen, Simon and Martine Friisenbach (2006): "*Konverteringsgevinster og tillægsbelåning 2005*". Vilstrup. April.
- Committee on the Global Financial System (2006) 'Housing finance in the global financial market', CFGS Paper number 26, Bank for International Settlements, Basel.
- Council of Mortgage Lenders online tables at [www.cml.org.uk](http://www.cml.org.uk) ; Table ML5, 'Fixed and variable rate lending – house purchases and remortgages'
- Department of Communities and Local Government (2006) *Housing in England 2004/05* DCLG London.
- Financial Services Authority (2006) 'Interest-only mortgages—consumer risks' Consumer Research 56, Financial Services Authority, London.
- Girouard N, Kennedy M, van den Noord P and Andre C (2006) *Recent House Price Developments: The Role of Fundamentals* Economics Department Working Papers No. 475, Organisation for Economic Cooperation and Development, Paris.
- Girouard N, Kennedy M and Andre C (2007) 'Has the rise in debt made households more vulnerable?' Economics Department Working Paper number 535, OECD Paris
- Kyung-Hwan Kim, Department of Economics, Sogang University, personal communication with author.
- Mercer Oliver Wyman (2003) *Study on the Financial Integration of European Mortgage Markets* Mercer Oliver Wyman and European Mortgage Federation
- Rouwendaal, J (2007) 'Ageing, homeownership and mortgage choice in the Netherlands,' paper presented at EMF/ENHR Housing Finance seminar in Brussels, March 2007; revised version dated 1 June 2007
- Scanlon K and Whitehead C (2004) *International Trends in Housing Tenure and Mortgage Finance* Council of Mortgage Lenders, London
- Stephens, M (2003) 'Globalisation and Housing Finance Systems in Advanced and Transition Economies' *Urban Studies* Vol 40, Nos 5-6, 1011-1026.
- Tatch J (2006) 'Interest-only: why all the interest?' *CML Housing Finance* Issue 11, November 2006, Council of Mortgage Lenders, London

Walley, Simon and Livia Figà-Talamanca (2006): *EMF Study on Interest Rate Variability in Europe*. European Mortgage Federation, Brussels

Wolswijk, Guido (2005): "On Some Fiscal Effects on Mortgage Debt Growth in the EU" (September 2005). ECB Working Paper No. 526 Available at SSRN: <http://ssrn.com/abstract=800505>